680,747

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
07/680,747	04/05/91	FOSS	R 628.30050X00

EXAMINER	
DINH, T	

ART UNIT	PAPER NUMBER
2502	9

DATE MAILED: 05/17/93

BSM2

ANTONELLI, TERRY, STOUT & KRAUS
SUITE 600
1919 PENNSYLVANIA AVE, N.W.
WASHINGTON, DC 20006

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 3/26/93 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), ~~0~~ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice re Patent Drawing, PTO-948.
3. ☒ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, Form PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-17 are pending in the application.
   Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-17 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable. ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed on _____, has been ☐ approved. ☐ disapproved (see explanation).
12. ☒ Acknowledgment is made of the claim for priority under U.S.C. 119. The certified copy has ☒ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

PTOL-326 (Rev. 9-89)

1) The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

2) (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3) (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) Claims **1-17** are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by **CHEN Y. WANG (4,991,142)**.

a) WANG discloses a dynamic random access memory (DRAM) as claimed in claims **1,6,7,10** and **16**, comprising :

a plurality of bit storage capacitors (column 1, lines 10-17);

a folded bit line comprises of a complementary pair bit lines (Fig.1, Bit lines in row);

a sense amplifier (Fig.1, 26,28);

means connecting bit line to sense nodes for imperfectly isolating sense nodes from the bit line (Fig.1, Isolators 14, Isolator control 03);

means for enabling sense amplifier (Fig.1, 05, 06);

means for disabling isolating means (Fig.1, Ø3);

power supply means for providing full high and full low logic level voltage (Fig.1, Vss, Vcc);

a pair of field effect transistors connected to power supply, and means for providing restore and sense signals to gates of these FETs (Fig.1, FET 34, FET 32, Ø6, Ø5).

b) As to claims 2,4 and 17, WANG shows isolating means including a pair of field effect transistors (Fig.1, 14).

c) As to claims 3 and 5, WANG shows disabling means comprises a voltage source (Ø3).

d) As to claims 8,9,14,15, WANG shows sense amplifier in figure 1, RT1, RT2, SA3, SA4 FETS 34,32 and Ø6, Ø5).

e) As to claims 11-13, WANG shows DRAM comprises a plurality of bit lines and associated with sense amplifiers (see figure 1, Bit Lines 10, 12).

5) Claims 1-17 are further rejected under 35 U.S.C. § 102(b) as being anticipated by **MIYAMOTO et al (4,780,850 and 4,803,663)**.

MIYAMOTO et al discloses a DRAM as claimed in claims 1-17 (see **4,780,850** figure 12, Isolators Q14, Q15; Isolator control TR; Sense Amplifier Q1a, Q2a, Q3a, Q4a; Power Sources Vcc, Vss; FETs QSNa, QSPa; Enabling Signals SNa, SPa; and **4,803,663**, figure 1, Isolators QT3, QT4; Sense Amplifier SA; Power Source Vcc, Vss; FETs QN5, QP5; Enabling Signals SN, SP1).

6) Applicant's arguments filed **Mar 26th 1993** have been fully considered but they are not deemed to be persuasive.

Applicant states that, the " isolator " in the prior art is not an imperfect isolation. This is not deemed to be persuasive by following reasons :

First, Applicant uses the same semiconductor switch as prior arts, the different between **semiconductor switch** (bipolar transistors or FETs) and **manual switch** (mechanical switch) is in mechanical switch after turn OFF the current completely isolate (open circuit), and in semiconductor switch after turn OFF still a small amount of current can leak therethrough, this is a characteristic of most transistors in the market today, therefore " imperfect isolator " by using semiconductor switches of Applicant is inherently in the prior arts.

Second, with the same circuit structure, same circuit elements as prior arts, Applicant claims that, the semiconductor switches of Applicant's invention is different with the prior arts by their function (imperfect isolation), this is not found persuasive because:

The prior arts did not fully admit that their " transistor switches " are perfected isolators, the Source-Drain of the FETs switches are in high resistance state but allows some charge leakage therethrough, this feature is inherently in most FETs. The use of transistor as a switch is based on the

characteristic of transistors event they could be perfected or imperfect as Applicant's claims.

If the FETs of Applicant is completely different with the FETs of the prior arts then what are they ?. No where in the specification particular point out their names, electrical data, manufacture, ..., and therefore the FETS of prior arts are the same as Applicant's FETs and of course they must perform the same functions.

Third, as indicated above, Applicant uses the same circuit structure as prior arts, same circuit elements and therefore the prior arts fully perform the same functions as claims 7 and its dependent claims.

For these reasons, the claims are still rejected under 35 USC 102 (b,e).

7) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to **TAN DINH** whose telephone number is (703) 308-4859.

Any inquiry of a general nature or relating to the status of this application should be directed to **the Group receptionist** whose telephone number is (703) 308-0956.

ROBERT J. PASCAL
SUPERVISORY PATENT EXAMINER
GROUP 2500

T.D
May 17, 1993